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THE NATIONAL ACADEMIES
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National Academy of Sciences
National Academy of Engineering
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National Research Council

September 21, 2001

Mr. Lake H. Barrett
Acting Director
Office of Civilian Radioactive Waste Management
U.S. Department of Energy
Washington, DC 20585

Dear Mr. Barrett:

We are responding to your letter of August 27, 2001 requesting comments on the Federal Register notice (66 FR 43850) regarding a possible Yucca Mountain site recommendation by the Secretary of Energy.

The National Academies of Sciences and Engineering have not taken a position on whether the Yucca Mountain site should be recommended for a mined geologic repository. The National Research Council, which is the operating arm of the two academies, however, has published several reports under the auspices of its Board on Radioactive Waste Management (BRWM) that are relevant to the site-recommendation question. The Research Council first pointed out the potential advantages of geologic disposal for managing radioactive waste in a 1957 report entitled "The Disposal of Radioactive Waste on Land," and since that time its committees have published reports that address standards for repository siting and licensing (e.g., Geological Criteria for Repositories for High-Level Radioactive Wastes, 1978; A Study of the Isolation System for Geologic Disposal of Radioactive Wastes, 1983; Radioactive Waste Repository Licensing, 1992; Technical Bases for Yucca Mountain Standards, 1995); alternatives to geologic disposal (e.g., Nuclear Wastes: Technologies for Separations and Transmutation, 1995); technical issues with respect to the Department's Yucca Mountain program (e.g., Rethinking High-Level Radioactive Waste Disposal, 1990; Ground Water at Yucca Mountain: How High Can it Rise?, 1992); and, more recently, on whether, when, and how to implement geologic disposal (Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges, 2001).

The 2001 BRWM report on disposition of spent fuel and high-level waste concluded that geologic disposition is "the only scientifically and technically credible long-term [emphasis added] solution available to meet the need for safety without reliance on active management ... and offers security benefits because it would place fissile materials out of reach of all but the most sophisticated weapons builders." That report also concluded that "[t]oday's growing inventory of HLW [high-level waste, including spent fuel] requires attention by national decision makers." The Department's current efforts to determine the suitability of Yucca Mountain for a mined geologic repository, as prescribed in the Nuclear Waste Policy Act (as amended), is certainly consistent with this report's call for "national attention" to the waste management problem.

The BRWM serves as the National Academies' focal point for work on radioactive waste disposal. The Research Council reports produced by the board have long advocated that radioactive waste be managed in a way that provides public, worker, and environmental protection, and also that waste management plans and practices be based on sound scientific, technological, and procedural foundations. We would urge that the Department keep these principles in mind as it proceeds with its site recommendation process.

Sincerely yours,

Bruce Alberts
President
National Academy of Sciences

Wm. A. Wulf
President
National Academy of Engineering

cc: John Ahearne (NAE), BRWM Chair
Kevin Crowley, BRWM Director